

REMARKS

The Office Action of February 3, 2009 has been carefully considered.

As requested, subject matter headings have been added to the specification.

Objection has been raised to the claims, and the claims have now been written in proper form for US practice, with claim 18 replacing claim 1. It is noted that claim 18 recites that the dividing layers serve as substrates for growing the further and upper active zones, to answer the objections that claim 1 fails to recite where the additional layers are grown. Claims 19-28 replace claims 3-8 and 10-17, with original claim 2 (and dependent claim 8) being withdrawn from consideration following the Restriction Requirement. Claims 21-28 remain withdrawn following the election of species, but Applicant submits that these claims should be found allowable if claims 18-20 are found to be allowable.

Claims 1, 3 and 4 have been rejected under 35 USC 112, 2nd paragraph, and it is submitted that new claim 18 clearly establishes the relationship between the active zones.

Withdrawal of this rejection is requested.

Claims 1, 3 and 4 stand rejected under 35 USC 102(e) over Wanlass et al.

According to the invention, an absorption layer is grown on an active layer for the purpose of adjusting the light spectra emitted by multi-wavelength light-emitting diode such that all active zones have essentially the same intensity. This is discussed in the present specification in paragraph [0021] of the application as published, and also in the description of Figs. 4a, b is paragraphs [0074]-[0075]. Hence, the absorption layers are deliberately applied on those active zones, which - compared to other active zones - have a higher

intensity.

Wanlass et al is directed to low bandgap, monolithic, multi-bandgap, optoelectronic devices, including PV converters, photodetectors, and LED's, having lattice-matched, double-heterostructure, low-bandgap GaInAs(P) subcells including those that are lattice-mismatched (LMM) to InP, grown on an InP substrate by use of at least one graded lattice constant transition layer of InAsP positioned somewhere between the InP substrate and the LMM subcells.

Wanlass et al does not disclose the problem of different intensities of active zones nor does the reference disclose or suggest applying an absorption layer onto an active zone.

Fig. 12 of Wanlass et al shows a layer structure including a substrate and a sequence of active zones (or subcells) which are interconnected via tunnel junctions or isolation layers, but there is no suggestion of placing an absorption layer according to the invention is this structure. Fig. 12 of Wanlass et al shows that the active zones (196, 194, 192) are interconnected by means of isolation layers or tunnel junctions (206, 204) without any absorption layer being consciously inserted for adapting the intensity of a single active zone.

Concerning the insertion of the isolation layers or tunnel junctions, it is mentioned in paragraph [0022] of Wanlass et al that isolation layers can be used between sub-cells for independent electrical connection of the sub-cells, although in bifacial embodiments, the substrate can be insulating or semi-insulating to serve as an isolation layer. Alternatively, the tunnel junctions can be used for intra-cell current flow between sub-cells.

Thus, the invention teaches the insertion of an absorption layer into a structure with a plurality of active zones and a plurality of dividing layers connecting the active

zones. Wanlass et al does not teach any such insertion of an absorption layer.


The Office Action takes the position that the non-junction portion in layer 192 or 194, for example, naturally functions as an absorption layer, and is formed of the same material as the pn layer of the active zone on which it is formed.

This is speculation. Moreover, even if this layer did have an absorbing effect, there is no disclosure or suggestion that the layer would adjust the intensity of the active zone underneath such that it corresponds to the intensity of the other active zones.

Wanlass et al does not therefore disclose or suggest the invention as claimed, and withdrawal of this rejection is requested.

In view of the foregoing amendments and remarks, Applicant submits that the present application is now in condition for allowance. An early allowance of the application with amended claims is earnestly solicited.

Respectfully submitted,



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